Liverpool John Moores University

Title:	Biomechanical Assessment in Sport and Exercise
Status:	Definitive
Code:	**7040SPOSCI** (119909)
Version Start Date:	01-08-2015
Owning School/Faculty:	Sport and Exercise Sciences
Teaching School/Faculty:	Sport and Exercise Sciences

Team	Leader
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Academic Level:	FHEQ7	**Credit Value:**	20.00	**Total Delivered Hours:**	24.00
Total Learning Hours:	200	**Private Study:**	176		

Delivery Options
Course typically offered: Semester 2

Component	Contact Hours
Lecture	12.000
Practical	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Concisely written proposal (1200 words)	50.0	
Report	AS2	Laboratory or field-based assessment report (1800 words)	50.0	

Aims

This module aims to provide the conceptual and practical knowledge base that develops and extends the understanding of biomechanical assessment. With continuous developments of equipment, software, and knowledge, there is a growing need for biomechanical assessment in sport and exercise. This has a role both in performance evaluation, in injury prevention, and in injury rehabilitation. This module

exposes students to a large variety of tools, each time first gaining a better understanding of the theoretical framework that justifies the use of such tool.

Learning Outcomes

After completing the module the student should be able to:

1	Construct an evidence-based rationale to use biomechanical assessment in the context of performance enhancement, injury prevention, or injury rehabilitation.
2	Develop the skills to produce a biomechanical assessment proposal.
3	Conduct a biomechanical assessment and produce a suitable report.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Assessment proposal	1	2
Assessment report	3	

Outline Syllabus

Module content includes:

Performance enhancement and injury prevention
Evaluation and analysis of technique
Evaluation of power
Evaluation of whole body motion in sports
Evaluation of cycling performance (bike positioning)
Injury prevention: Biomechanics of ACL injury
Injury prevention: Biomechanics of hamstring injury
Injury prevention: Functional tests for rehabilitation

Learning Activities

The module aims at providing a theoretical and practical background that enables you to create and understand a biomechanical assessment in sport and exercise. Lectures will primarily cover the evidence-base behind certain tests, or the lack of it. These lectures will either be complemented with in-class demo, or with a dedicated lab session to undertake the actual tests.

Notes

Our world-class Biomechanics laboratories house cutting edge equipment waiting for you to use. Optoelectronic cameras enable 3D movement capture, force and pressure platforms give information about global and local loads, virtual reality

(CAREN system) provides interaction in real time. See our Biomechanics section on the RISES website for staff research which feeds into your studies. More so, we have a broad range of applied equipment such as Muscle Lab, GPS, accelerometry, etc. Actually, there is too much to learn the use of each one of these in just one year. Therefore, this module provides lab session options, so that you can prioritise to learn those skills which you deem most valuable for your own career development.